

REMARKS

As a preliminary matter, Applicants request acknowledgement and consideration of the Information Disclosure Statement filed on February 13, 2006.

Claims 1 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reuter (EP '667). Applicants traverse this rejection because Reuter fails to disclose or suggest the use of polyethylene terephthalate (PET) reinforcing cords.

Reuter discloses a spirally wound strip, superimposed radially outward of an outermost belt ply, that is reinforced by aramid cords (See Reuter '667, page 3, lines 32-34). The aramid cords have an elongation in the range of 1% of 3% before the tire has been cured (see page 6, lines 1-10). However, the relatively low elongation of the cords indicates that the cords used in the belt reinforcement layer have a relatively high modulus of elasticity. Thus, when the uncured tire is lifted to an inner surface of the mold during the vulcanization process, the tire is more likely to be damaged due to a high tensile strength of the aramid cords. Accordingly, as shown in Fig. 2 of Reuter, the aramid cords are woven into a textile fabric along with a filling material in an effort to maintain positioning and spacing of the aramid cords during vulcanization (see page 4, lines 7-14).

In contrast, claim 1 recites organic fiber cords made from PET. The PET cords have a relatively low modulus of elasticity, and consequently a relatively high elongation before tire cure. For this reason, the PET reinforcing cords advantageously do not require the processing disclosed in Reuter. Thus, the belt reinforcement layer of the present invention can be formed at low cost. Because Reuter fails to disclose or suggest the use of PET

reinforcing cords, as recited in claim 1, withdrawal of the rejection of claims 1 and 5 is respectfully requested.

Applicants also traverse this rejection because Reuter fails to disclose or suggest that an outer diameter of the belt reinforcement layer in a tread center portion of the tire is set to be 1.065 to 1.13 times an outer diameter of a terminal of the belt reinforcement layer. The examiner asserts that Reuter shows a curvature in a crown region of the tire, and that it is thus clear that the diameter of the overlay at the ends of the overlay is thus smaller than the diameter of the overlay at an equatorial plane of the tire. However, Reuter is silent regarding any relationship between these two diameters. Additionally, Applicants note that while the “overlap” of the overlay structure in Reuter is an absolute dimension of “a few mm” (see Reuter p. 3, lns. 43-44), Reuter is silent regarding the amount of curvature in the crown region. Accordingly, it is impossible to determine the ratio of the radius at the tire equator to the radius at the ends of the overlay, given only a lateral measurement of the width of the overlay. For this additional reason, applicants again request withdrawal of the rejection of claims 1 and 5.

Claims 1 and 5 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hirai (JP ‘015) and further in view Reuter (EP ‘667). Applicants traverse this rejection because the cited references, taken alone or in combination, fail to disclose or suggest organic fiber reinforcing cords made from PET and having an intermediate elongation after vulcanization and under a load of 67N in a range of 3.5 to 5.5%, as recited in claim 1.

Hirai discloses a reinforcing layer made up of cords extending substantially in the circumferential direction of the tire. However, Hirai is silent regarding the properties of these cords. Accordingly, the examiner relies on Reuter '667 to disclose the properties.

As discussed above, Reuter '667 fails to disclose or suggest an organic fiber reinforcing cord made of PET. Additionally, Reuter '667 discloses that, after tire cure, the aramid cords have an elongation of 3% under a load of more than 60N, and preferably about 75N (see page 6, lines 21-23). Moreover, Reuter '667 discloses that in a preferred embodiment, the cords of the overlay have a stress of 2000 to 2500N per inch ($66 \frac{2}{3}$ to $83 \frac{1}{3}$ N) at a 3% elongation (see page 6, lines 37-39). Accordingly, Reuter '667 also fails to disclose a reinforcing cord having an intermediate elongation after vulcanization and under a load of 67N in a range of 3.5 to 5.5%.

Thus, because neither Hirai nor Reuter '667 disclose or suggest reinforcing cords made from PET and having an intermediate elongation after vulcanization and underload of 67N in the range of 3.5 to 5.5%, withdrawal of the rejection of claims 1 and 5 is respectfully requested.

Claims 1-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reuter '928 in view of Reuter '618. Applicants traverse this rejection because the cited references, taken alone or in combination, fail to disclose or suggest organic fiber reinforcing cords made from PET.

Reuter '928 discloses that a spirally wound strip is superimposed radially externally of an outermost belt ply in a tire. The strip is made from an elastomeric material,

and is reinforced by aramid cords. However, Reuter '928 is silent regarding reinforcing cords made from PET.

Reuter '618 discloses a helically wound strip forming an overlay superimposed radially externally of an outermost belt ply in the tire. The strip is made from an elastomeric material and is reinforced with hybrid cords, including both aramid and nylon. That is, the reinforcing cords disclosed in Reuter '618 are formed from multiple materials, neither of which is PET.

Thus, because Reuter '928 and Reuter '618, whether taken alone or in combination, do not disclose or suggest a belt reinforcement layer formed of organic fiber reinforcing cords made from PET, withdrawal of this rejection of claims 1 and 5 is respectfully requested.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over one of Reuter '667, a combination of Hirai and Reuter '667, or Reuter '928 and Reuter '618, and further in view of Poque (DE '817). Applicants respectfully traverse this rejection for the reasons given above with respect to claim 1, from which claim 3 depends, and thus contains all the features of claim 1, plus additional features. Applicants request withdrawal of the rejection of claim 3 for the reasons identified above with respect to claim 1 and because Poque fails to remedy the deficiencies identified above. Poque discloses a tire that includes a running strip that reinforces the tire, made from a variety of materials. However, Poque is silent regarding reinforcing cords made from PET. Accordingly, applicants respectfully request withdrawal of the rejection of claim 3.


Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over one of Reuter '667, a combination of Hirai and Reuter '667, or Reuter '928 and Reuter '618, and in view of Nishizawa '262. Claim 4 depends from claim 1, and therefore includes all the features of claim 1 plus additional features. Accordingly, applicants respectfully request that the rejection of claim 1 be withdrawn in light of the above remarks directed to claim 1, and because Nishizawa does not remedy the deficiencies identified with respect to the rejection of claim 1.

For all of the above reasons, applicants believe that this case is in condition for allowance, which is respectfully requested. The examiner should call applicants' attorney if an interview would expedite prosecution.

If a Petition under 37 C.F.R. §1.136(a) for an extension of time for response is required to make the attached response timely, it is hereby petitioned under 37 C.F.R. §1.136(a) for an extension of time for response in the above-identified application for the period required to make the attached response timely. The Commissioner is hereby authorized to charge fees which may be required to this application under 37 C.F.R. §§1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By 
Kevin T. Bastuba
Registration No. 59,905

November 12, 2008

300 South Wacker Drive
Suite 2500
Chicago, Illinois 60606
Telephone: 312.360.0080
Facsimile: 312.360.9315

Customer No. 24978